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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/573,198

03/24/2006

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EXAMINER

DESAI, NAISHADH N

ART UNIT

PAPER NUMBER

2809

MAIL DATE

DELIVERY MODE

05/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,198

Applicant(s)

TANAKA ET AL.

Examiner

Naishadh N. Desai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/8/2006, 3/24/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 3/24/2006 and 6/8/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Teigi Ikeda et al (JP 60-18648).

4. As per independent claim 1:

A stator in a rotating electric machine (Fig 1 shows the stator structure of rotating electric machine), the stator comprising(Fig 1,1);

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a stator core(Fig 1,1) provided with plural slots(the abstract speaks of an iron core(element 1) having plural slots) in an inner peripheral surface (Fig 1 shows a stator structure with plural slots in an inner peripheral surface);
and a stator winding disposed inside each of the plural slots, wherein (Fig 1 shows a stator structure wherein windings are disposed inside the slots);

each slot of the plural slots has a slot peripheral wall (Fig 1, side wall) and a slot opening that opens in the inner peripheral surface (Fig 1, slot opening):

the slot peripheral wall of each slot has a slot bottom wall (Fig 1, bottom wall) and a pair of slot side walls opposing to each other and continuing to the slot bottom wall (Fig 1, side walls are opposing each other and continues to the bottom wall):

the slot peripheral wall is covered with an insulation coating made of an electrical insulation material(Fig 1, 3 shows an insulation material covering the slot walls):

the insulation coating(Fig 1,3 is an insulation material) is formed over continuously from the slot bottom wall to the pair of slot side walls (Fig 1 shows element 3(insulation material) covering continuously from the bottom wall to the slot side walls):

a pair of holding grooves opposing to each other is formed in the insulation coating on the pair of slot side walls at the vicinity of the slot opening (Fig 5, 9 shows a pair of

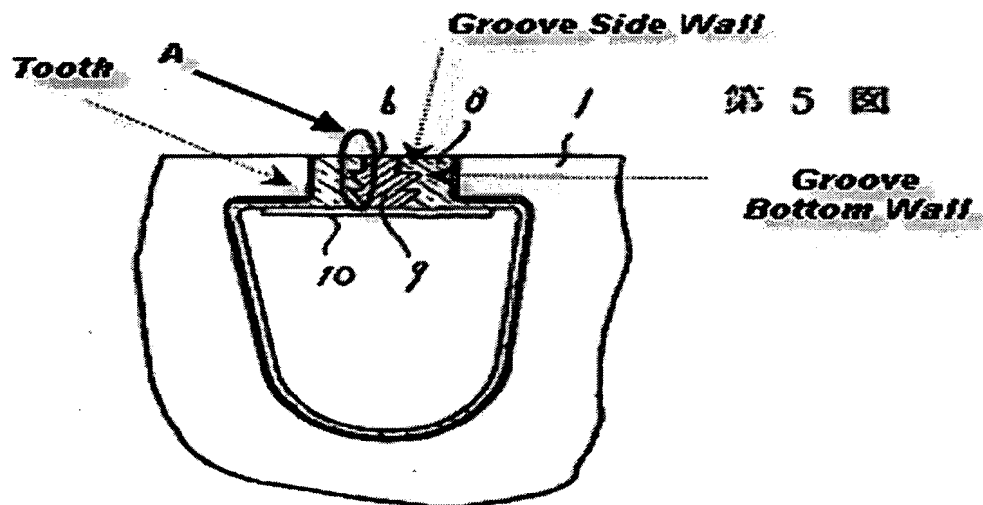
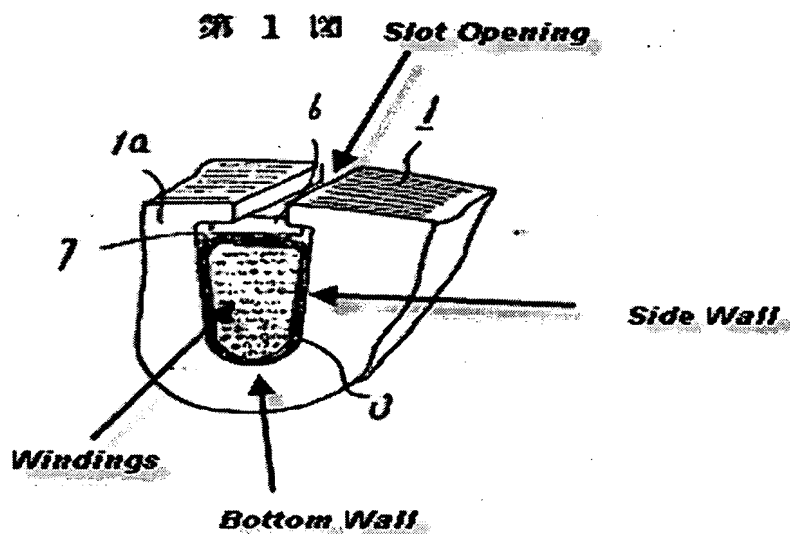
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grooves opposing each other formed in the insulation and located by the opening of the slot and between the wedge (element 6)):

groove walls of the holding grooves in the pair are formed in the insulation coating(Fig 5 shows the walls of the groove(element 9) to be formed in the insulation member (element 8)) :

and an electrical insulation member for closing the slot opening(Fig 5, 10 is a wedge container made of the same material as insulation member(element 8)) is inserted into and held between the holding grooves in the pair(the wedge container is inserted into and held between the holding grooves).

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5. As per dependent claim 2:

This limitation is a product by process limitation. The method of forming the device is not germane to the issue of patentability of the device itself. This limitation does not structurally distinguish the claim over the prior art.

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6. As per dependent claim 3:

Fig 5, A shows a groove being formed (element 9) having a depth which is smaller than the thickness of the insulating member(element 8).

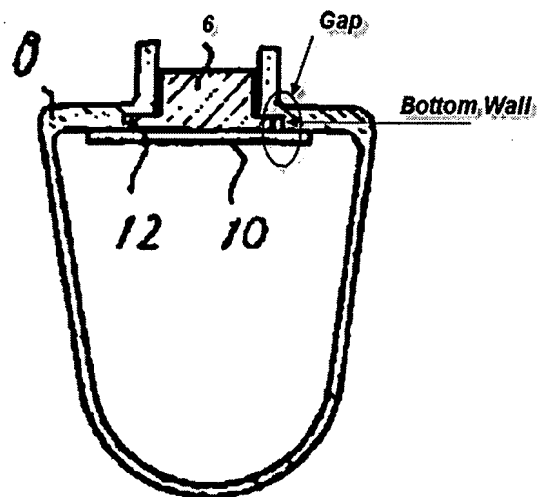
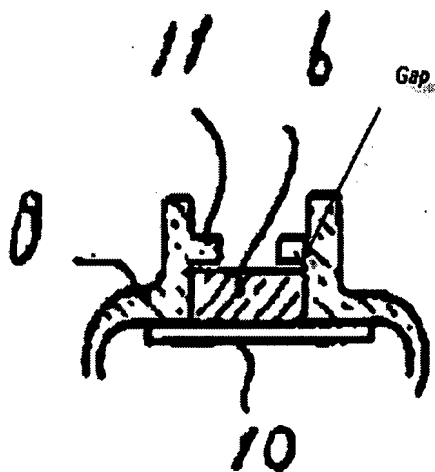
7. As per dependent claim 4:

Figure 5, (elements A, groove side wall and groove bottom wall) shows the groove wall of the holding grooves having a bottom wall, two side walls opposing each other and formed in the insulating member (element 8).

8. As per dependent claim 5:

Figure 7 shows a clearance or gap formed between one of the groove side walls(the walls of element 11 which is a protrusion) and the insulating member(element 8).

第 7 圖



第 9 圖

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9. As per dependent claim 6:

Figure 9 shows a gap between the groove bottom wall and the insulation member (element 8).

10. As per dependent claim 7:

Figure 1 shows the bottom wall indicating the depth of the slot. The opposite end of the slot depth is indicated by the slot opening. The side wall on the inner side of each slot is formed to tilt in the depth direction of the slot.

11. As per dependent claim 8:

Figure 1 shows the windings having a smaller width in a circumferential direction than the gap between the slot sidewalls and the slot opening.

12. As per dependent claim 9:

Figure 1 shows a stator with plural winding members having a width in a circumferential direction smaller than the interval between the pair of slot sidewalls. It also shows the windings to be disposed in line along the pair of slot sidewalls and to have a thickness in a radius direction smaller than the width in the circumferential direction.

13. As per dependent claim 10:

Figure 5 shows a stator having teeth portions formed between the slots and having a hanging portion, which hang out in a circumferential direction close to the inner

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peripheral surface of the stator core (element 1). The pair of sidewalls along with the insulating member extends onto the hanging portions. Holding grooves are formed in the insulation member.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gomory teaches an armature-core insulation. Asao teaches a stator of AC generator for use in vehicle. Bradfield teaches high fill stator design. Becheruchi methods for balancing electric motors. Kuroyanagi et al teaches core with insulation member and method of producing the same. Tomite teaches laminated rotor slot closer. Uchida et al teaches insulating member for a core of a motor. Miyazaki et al teaches insulation of a coil used in electrical apparatus. Yumiama et al teaches rotary armature and method of forming armature coil. Van Rooij teaches electric motor or generator.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naishadh N. Desai whose telephone number is (571) 270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NND


N. DREW RICHARDS
PRIMARY EXAMINER